

# JOINT REGIONAL AGREEMENT ON WATER QUALITY TRADING

## Discussion Guide, August 8<sup>th</sup>, 2013

This Discussion Guide is intended to provide definitions, context, analysis, and options for addressing various components of water quality trading programs. It poses questions that will be discussed at the interagency workshops. This document may reference other trading programs, examples, or documents, but is not intended to serve as a published report or white paper and thus will not be extensively cited. This document will be included in the workshop packet and posted online following each workshop.

### **Role of State Agencies, NPDES Permittees, and Third Parties (Section 4.1,7,8)**

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The NPDES permit program has typically relied upon self-reported direct monitoring of discharges to prove that permittees are in compliance. In the water quality trading context, direct monitoring of pollution loads is more difficult because monitoring and reporting occur on a larger number of dispersed sources. In order to provide regulators with the same level of confidence as point source direct monitoring, there are four analogous phases of the credit process that provide an opportunity to review and approve project documentation: validation, verification, certification, and registration. Some trading programs require these steps, some recommend them, and others are silent. At JRA Workshop #1, agencies requested more information on the implications of requiring that project developers go through validation, verification, certification, and registration; and determining who should provide the program administration function of performing the activity within a trading program. In exploring this issue, we found that underneath each of these phases is a fifth phase—standard management, or helping articulate the specific processes for each phase, which is also included in this discussion guide.

This discussion guide includes a brief overview of the methodology traditionally used to monitoring compliance when permittees pursue technological solutions to compliance with an NPDES permit, a review of the five aforementioned program administrator functions and then outlines and walks through a framework for understanding the implications of different entities (agencies, permittees, third parties) performing each function.

Accompanying this discussion guide are two appendices. **Appendix 1 (Delegation)**, which provides a detailed discussion of delegation as it relates to particular types of program administration functions (including standard development/approval), and includes 8 case studies of analogous regulatory structures where an agency delegated authority to perform one or more of these functions to a third party (these case studies will be referenced in the body of the discussion guide, so please refer to the appendix for an in-depth review). Although not discussed directly in this discussion guide, **Appendix 2 (Confidentiality, Privacy and FOIA)** provides a detailed assessment of how delegation of roles can impact confidentiality and privacy concerns.

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## A. Assuring Compliance with Permits – using Traditional Technology Solutions

For wastewater discharges controlled through end-of-pipe technology, a facility's compliance with the CWA is determined by reporting and reviewing discharge monitoring reports (DMRs). The NPDES program is a self-reporting system where permittees provide required reports to state water quality agencies on a required schedule, attesting that the information provided is true. There are important safeguards underpinning a self-reporting system including EPA rules and state guidelines on monitoring and reporting discharges and significant penalties for not providing timely, complete, or accurate information in accordance with those guidelines.

## B. System for Assuring Compliance with Permits – using WQT Solutions

Monitoring and reporting in a trading context occurs on a larger number of dispersed sources (i.e., numerous landowners with relatively small individual loads compared to a single point source discharger), so direct monitoring of pollution loads is far more difficult than at a point source discharge. In order to provide regulators with the same level of confidence as is engendered through point source DMRs, there are four phases of the credit issuance process that provide an opportunity to review and approve project documentation: validation, verification, certification, and registration. In addition, a fifth phase—standard development—underlies each of these phases. Section (1) includes explanations of these five phases, which represent functions that a program administrator must provide. Section (2) provides the general framework for which each of these functions can be evaluated.

### 1. Credit Issuance Phases/Program Administration Functions

- **Validation:** the initial screening of a site to determine its eligibility to generate credits. When the Willamette Partnership first contemplated validation, it considered it a way to keep project developers from wasting time and money on a project that was going to have other problems in the future. This process has been hugely beneficial in the initial temperature transactions in the Rogue River Basin by highlighting complexities and potential issues with eligibility early on.
- **Verification:** the review of a site's credit calculation amount, confirmation as to proper implementation of BMPs, and review of site eligibility and stewardship documentation. Verification is the most important checkpoint when deciding whether to issue credits from a specific project. During this stage, site visits occur to confirm BMPs are installed properly, and the verifier conducts a detailed review of credit calculations for accuracy and reviews all the documentation provided during validation to confirm that project's eligibility.
- **Certification:** the final project check before credits are made available. This step is largely a review for documentation completeness. Although mostly a paper exercise, certification is the point where information about a project's benefits is transformed into credits—assets that can be used by an NPDES permittee to offset its discharges.
- **Registration:** the step where credits are entered into a ledger. The ledger is the official record of credit issuance, transaction, and usage/retirement. This ledger, called a registry, ensures that credits are not sold more than once, that there is a full record of documents and transactions for a trading program, and that different users can generate reports on activity within a trading program. Registries in use range from a simple Excel spreadsheet, to websites that allow for financial transactions and include several layers of security. Regardless of its format, registration is designed to provide a central repository and tracking system with complete and current data on credits issuance, ownership, and usage of those credits.
- **Standard Management:** this is about articulating specific processes that operationalize agency policy. Standard processes and methods are essential for consistently and legitimately translating ecological uplift into a "credit" that can legally offset an impact. These rules and metrics are used

in validation, verification, certification, and registration to predictably and fairly operate across watersheds and as applied to different permittees. Standard development also includes adaptive management to improve standards with new information over time.

## 2. Framework for Evaluating Which Entity Performs Each Function

- a. ***Skills/Expertise Required to Perform Each Function:*** One question to address for each of these functions is the type of expertise/skill required to perform these functions. Some functions are largely “administrative” (i.e., oversight), whereas others might require familiarity with specific ecology and land management practices in order to perform.
- b. ***Administrative Time/Costs:*** The next question to address for each function is the amount of administrative/time and effort required to perform the function. Estimates are provided based on WP and TFT experience performing these functions thus far with water quality trading in Oregon. These estimates are based on a typical water temperature project in Willamette Partnership’s Ecosystem Credit Accounting System, assuming 1 practice over ~1/2 mi of stream on a 2-5 acre site, for 5 years total.
- c. ***Requirement versus Recommendation:*** The third question that must be answered when assessing these four functions is which phases the permit issuer should require when writing permits that include trading.
- d. ***Who Performs the Function?*** The fourth question for a permitting agency to answer is who performs each of these functions (i.e., the state agency, the permittee, or a third party). The answer to this question may be rooted in resource constraint and conflict of interest questions.
- e. ***If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?*** If states choose to use a third party to perform any of these functions, does it make sense to formally delegate or assign any kind of formal authority to those third parties? The CWA and relevant state law do not address what aspects of a trading program can be delegated, and if delegated, what sort of arrangement would be required between the permitting agency and the third party. Delegation may be most appropriate for activities where specific expertise is required, where demand is unpredictable and requires flexibility of resources, and where a high volume of transactions might cause agencies to spend time and money beyond what is available to those agency personnel. Generally, if a state agency delegates a function, the agency should consider the following (which are summarized in the Recommended Default Considerations in **Appendix 1**):
  - i. The more extensive the delegated responsibilities, the more formal/extensive the state-to-third party delegation mechanism should be (and there must likely be some official delegation mechanism);
  - ii. The agency should retain decision-making/approval/oversight authority (authority to cancel the delegation is not sufficient control);
  - iii. The state agency should retain dispute resolution authority;
  - iv. Designees of authority should also be screened for conflicts of interest. As noted below, some other delegation issues relate directly to the particular functions—these issues will be discussed in the relevant locations, and relevant examples will be included where appropriate.

Appendix 1 to this discussion guide includes a comprehensive discussion of delegation issues that might arise in a trading context, as well as 8 different regulatory context examples to help

illustrate the various types of delegation mechanisms and scopes. Neither this discussion guide nor Appendix 1 are meant to suggest that any participating agency should delegate particular functions.

## C. Evaluation of Individual Functions

### 1. Validation

- a. ***Skills/Expertise Required to Perform Each Function:*** Validation includes review of project eligibility and project design, and a conceptual description of how the proposed credit calculation will be conducted. The first task requires comprehensive knowledge of the relevant trading protocol(s) and standards. The latter requires a basic understanding of the BMP being proposed and the protocols for applying the appropriate credit quantification method. For both aspects, questions are likely to arise that are not covered under current policies, in which case a validator needs either decision making authority or access to those who can provide it.
- b. ***Administrative Time/Costs:***
  - Program admin: 2 - 10 hours
  - Managerial: 1-5 hours
- c. ***Requirement versus Recommendation:***

Reasons to <u>require</u>	Reasons to <u>recommend</u>
This phase provides the program administrator with a chance to become familiar with and ask questions about a project early on, potentially guiding project design or implementation in ways that best fit trading program objectives. Requiring validation would ensure that market administrators are brought in early.	The project developer is the main beneficiary of this phase, so there is case to be made that it should be their decision whether or not to incur the additional costs.

- d. ***Who Performs the Function?*** See options in table.

I. Options & Examples	Pros	Cons
<b>Option A:</b> <u>State agency.</u>	Provides state agency an early opportunity to review/approve into credit projects.	Where capacity is limited, the time of agency staff may be best spent on verification and certification, especially since validation can be time-consuming.
<b>Option B:</b> <u>NPDES</u> <u>Permittee</u>	For example, Clean Water Services works with the Tualatin SWCD to filter proposed shade credit projects to a list of the best projects from a shade and broader ecological perspective (thus maximizing projects early on). It is in the interest of the permittee to accurately evaluate project eligibility before dollars are invested in planning	In new programs, or where there is significant room for interpretation of eligibility criteria, it will be more difficult for permittees to make an accurate assessment.  Permittees may also have some conflicts of

	and implementation, however, this will be most effective in program where eligibility criteria are clearly spelled out.	interest associated with self-validating (i.e., expediting projects that should not be pre-qualified due to compliance schedule pressures, etc.)
<b>Option C:</b> <u>Third party</u>	<u>Many</u> trading programs use a third party market administrator (e.g., Great Miami Conservancy, Electric Power Research Institute, Idaho Clean Water Cooperative, Willamette Partnership) to do validations. The advantage is primarily in terms of familiarity with the standards/protocols, and the administrative time/money saved by agency personnel.	May need formal delegation of authority to that third party (which requires some agency action/oversight to complete)

- e. ***If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?*** Formal delegation of authority for validation is probably less important than for other functions that might be performed by a third party.

## 2. Verification

- a. ***Skills/Expertise Required to Perform Each Function:*** Verification requires the most time, skill, and independence of all steps discussed here. Verifiers need the same ability to understand, interpret, and make decisions about eligibility standards as the entity validating projects. Verification requires additional familiarity with quantification methods/tools, typically to the level that they can duplicate the credit calculation process to ensure it was done correctly. This may require access and capacity to use GIS and water quality models, and would require a relevant professional background. Finally, verification requires familiarity with the specific BMP(s) being verified to the point that the BMP can be visually assessed for proper implementation and/or performance in accordance with quality standards.
- b. ***Administrative Time/Costs:***
- Program administration: 10-15 hours, this includes selecting and contracting with a third-party verifier, coordinating transfer of information and scheduling desk audit, site visit, moderating the remedy of minor discrepancies revealed during verification.
  - Managerial: 1-5 hours
  - Verifier: 22 hours + time and expense to travel to project site. This includes review of eligibility documentation, desk audit of credit calculation, site visit, verification report, and review of annual monitoring reports through project year 5.
- c. ***Requirement versus Recommendation:*** See options in table.

<b>Reasons to <u>require</u></b>	<b>Reasons to <u>recommend</u></b>
This is the only phase during which the program administrator takes a deep and complete look at the credit-generating project. This phase is the most critical check to ensure that projects are eligible, implemented as designed, are meeting quality standards, and that credits have been accurately calculated. Requiring verification provides a level of assurance similar to DMR reports to the agencies and public that the promised	<p>Ultimate liability rests with permittees. There is an argument that it should be up to permittees whether they wish to take on additional risk of being out of compliance and/or being more exposed to legal challenges by forgoing verification.</p> <p>Verification adds cost to the price of credits. There may be different forms of verification (e.g.</p>

water quality benefits will be realized. Because permittees are ultimately liable for permit compliance, verification can also be a mechanism for permittees to ensure accountability from the project developer contractors who deliver permittees the credits to meet their compliance obligations (e.g., City of Medford contract with TFT).	frequency, intensity, and verification of a sample of total BMPs) that help reduce some of these costs.
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**d. Who Performs the Function?** See options in table.

<b>I. Options &amp; Examples</b>	<b>Pros</b>	<b>Cons</b>
<b>Option A:</b> <u>State agency</u>	Conducting verification would give state agencies the most control/assurances over how program standards are implemented, and over the credits generated from a site.	Verification is the most time consuming function and may require flexibility and responsiveness in staff availability that would be difficult for a government agency to provide. For example, over the next ten years in the Medford program, verification will likely be required on 4 – 10 projects per year - rising, peaking, and dropping off. The number of hours needed to verify those projects will follow the same arc. Hiring or predicting agency staff to perform this could be challenging.
<b>Option B:</b> <u>NPDES Permittee</u>	Self-verifying by NPDES permittees often requires a significant investment in internal capacity, which can help the entity more easily manage more credit projects over the long-term. For example, Oregon’s Clean Water Services chose to develop a staff that understands BMP implementation, crediting procedures, technical aspects of completing credit calculations, and the additional capacity in regulatory affairs to use a trading alternative to compliance.	This option may only be available for larger facilities with growing ratepayer bases.  Self-verifying also presents a conflict of interest for permittees because they benefit when credits are approved. That conflict may be moderated by the reality of audit and/or enforcement actions.
<b>Option C:</b> <u>Third party</u>	Impartiality. Third parties should have no vested interest in a particular site being credited or not – they would be paid either way.  Third parties may also have a greater ability to be responsive to market needs, both in sheer time and variety of expertise.  For example, Oregon DEQ accepts credits verified by third parties. The Ohio River Basin trading program also intends to utilize third party verification.	It may be more expensive to pay for third party verification.

- e. ***If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?*** Formal delegation of authority is likely more important for this function. In **Appendix 1**, see **Example 4** (*Western Governors' Association delegation of authority to the Western Renewable Energy Generation and Information System (WREGIS) to develop and manage Online Renewable Energy Credit (REC) verification & registration*); **Example 5** (*Indiana, Kentucky and Ohio, and Ohio River Valley Water Sanitation Commission (ORSANCO) delegation of authority to the Electric Power Research Institute (EPRI) to manage pilot water quality trading program*); and **Example 6** (*Oregon DEQ delegation of on-site wastewater treatment system monitoring & inspection authority to certified maintenance providers*).

### 3. Certification

- a. ***Skills/Expertise Required to Perform Each Function:*** Certification is largely an administrative step that ensures all appropriate documentation for a credit is in place, and is the final approval step before a credit is made available for sale. Conducting certification requires an understanding of crediting protocols and standards, particularly the suite of documents and approval that must accompany a complete package of project documentation. Certification is relatively quick provided that the certifier is already familiar with the project through the validation and verification processes but would be significantly more time intensive otherwise.
- b. ***Administrative Time/Costs:***
- Program admin: 1-4 hours (assumes prior familiarity with the project through validation and verification).
- c. ***Requirement versus Recommendation:*** See options in table.

<b>Reasons to <u>require</u></b>	<b>Reasons to <u>recommend</u></b>
Like a QA/QC on project documentation, requiring certification would ensure that project information is consistently complete. It does not require a large investment of time.	Potentially redundant if verification accurately assesses the completeness of project documentation.

- d. ***Who Performs the Function?*** See options in table.

<b>I. Options &amp; Examples</b>	<b>Pros</b>	<b>Cons</b>
<b>Option A:</b> <u>State agency</u>	Certification would provide an opportunity for agencies to review documentation at the final stage before credit issuance, giving a complete picture of the project and its assessment through the verification process.  Certification requires less time and capacity than verification or validation, while still keeping agency staff in the loop as projects are brought into the trading program.	Certification may take time that agency staff do not have, or require levels of review that agency staff do not want to undertake.  Certification can also take more time or introduce potential disagreements if agency staff have not already been part of validation and verification (i.e. not already familiar with the project).
<b>Option B:</b>	Self-certification by NPDES permittees often	This option may only be available for larger

<u>NPDES Permittee</u>	requires a significant investment in internal capacity, which can help the entity more easily manage additional credit projects over the long-term.	facilities with growing ratepayer bases.  Self-certifying also presents a conflict of interest for permittees because they benefit when credits are approved. That conflict may be moderated by the threat of audit and/or enforcement actions.
<b>Option C:</b> <u>Third party</u>	Like verification, the main benefits are impartiality and flexibility.  Third parties that are capable of managing validation or verification are also likely able to conduct certification.	May be more expensive.

- e. *If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?*** If certification is delegated, it may make sense to formally delegate authority for this function. It may also make sense to pair verification with certification. Like validation, this action may not be as important as with verification. In **Appendix 1**, see **Example 4** (*Western Governors’ Association delegation of authority to the Western Renewable Energy Generation and Information System (WREGIS) to develop and manage online renewable energy credit verification & registration*); and **Example 5** (*Indiana, Kentucky and Ohio, and Ohio River Valley Water Sanitation Commission (ORSANCO) delegation of authority to the Electric Power Research Institute (EPRI)*).

#### 4. Registration

- a. *Skills/Expertise Required to Perform Each Function:*** Credit registries act as a ledger for tracking transactions and ownership, and as a mechanism to distribute information. These functions can, in theory, be replicated with a spreadsheet and a website for posting documents, but doing so in a secure manner that maintains/protects landowner privacy and maintains security as a larger number of credits are registered would require a relatively high level of sophistication. Therefore, the manager/builder of a credit registry must have sufficient ability to maintain security and protect sensitive information, and the ability to provide the information in an easily accessible manner.
- b. *Administrative Time/Costs:*** There are a few options for creating and/or accessing a central database. Creating a registry from scratch to be maintained by the state is one option, likely requiring a larger investment up front. To access a registry operated by a third part (e.g., Markit), costs are typically structured as either a flat fee or a per project/per credit basis. A flat fee would be paid by the program administrator, who may then pass along costs to project developers or permittees via fees and contracts. Using a per credit or per project fee structure administered by the registry operators is a way to pass costs directly to the project developer.
- c. *Requirement versus Recommendation for use of a central registry:*** The alternative to requiring registration in a central registry would be that permittees are required to maintain records and provide access to those records on the agency website or its own website.

<u>Reasons to require</u>	<u>Reasons to recommend</u>
Requiring that credit ownership be tracked is critical to ensuring they are not sold more than once and	Without adequate security, transactions and assets may be vulnerable to electronic attacks. Secure systems



are thereby truly offsetting the permitted impacts.  Provides consistent access to information for environmental groups and other stakeholders (that would otherwise be provided through DMR data and reports).	tend to bring additional costs.  Concerns about privacy and intellectual property. Without adequate security, this sensitive information would be additionally vulnerable. Secure systems tend to bring additional costs.
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**d. Who Performs the Function?** See options in table.

I. Options & Examples	Pros	Cons
<b>Option A:</b> <u>State agency</u>	State agencies would be able to post a ledger and project documentation with limited investment of resources.	State agencies are unlikely to have the technical capacity/funding needed to ensure the registry and the associated project information are secure.
<b>Option B:</b> <u>NPDES Permittee</u>	May be easier to shepherd resources for management and maintenance of secure web platform (via a dispersed base of ratepayers).  With traditional solutions, permittees have a long history of using self-reporting to confirm compliance with permits.	Similar to verification and certification, the main issue with permittees management of registration is conflict of interest. Permittees may have an incentive to misrepresent projects or transactions.
<b>Option C:</b> <u>Third party</u>	Third party registry providers (e.g., Markit Environmental) have the capacity and resources to design, manage and operate a secure and independent web platform for documents.	Third party registry providers typically have the highest costs.

- e. If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?** If registration is delegated, it probably makes sense to formally delegate authority for this function. The type of delegation mechanism needed for this type of delegation is likely less formal than for actions such as verification and standard development. In Appendix 1, see **Example 4** (*Western Governors' Association delegation of authority to the Western Renewable Energy Generation and Information System (WREGIS) to develop and manage online renewable energy credit verification & registration*); and **Example 8** (*local government delegation of authority to online RME to manage online septic system installation and inspection reporting system*).

## 5. Standard Management

- a. Skills/Expertise Required to Perform Each Function:** Standards management is a process-oriented task that requires the ability to manage multi-stakeholder processes and interests. Entities facilitating standards development need to understand the science, policy, and economics behind trading. For ongoing adaptive management, there also needs to be some capacity to process new information, critiques, and requests for clarification in a timely and structured way.

**b. Administrative Time/Costs:**

- Protocols and program standards

- Program administration: 150 - 280 hours per year
- Managerial: 35-55 hours per year
- Quantification method
  - Program administration: 35 – 55 hours/year
  - Managerial: 10 hours per year

**b. Requirement versus Recommendation:** N/A. All parties agree that standards must be developed against which to compare individual projects.

**c. Who Performs the Function?** See options in table.

I. Options & Examples	Pros	Cons
<b>Option A:</b> <u>State agency.</u>	State agencies would be in the strongest position to authoritatively develop standards with the force of law, rule, or guidance.	State agencies are unlikely to have the capacity/funding needed to continually develop and adapt standards for new and evolving BMPs.  They also may not have the ability to issue timely clarification to standards where gaps or inconsistencies appear.
<b>Option B:</b> NPDES Permittee.	May be easier to shepherd resources for standard development (from dispersed ratepayer base).	Similar to verification and certification, the main issue with permittee development of standards is conflicts of interest. Permittees may have an incentive to develop weak or ineffective standards that are tailored to their interests rather than to a state as a whole.
<b>Option C:</b> <u>Third party</u>	Third parties are in the best position to develop standards quickly, and to adapt to changing economic and political currents. Third parties may also have more flexibility to raise the resources to develop such standards.	Without a formal blessing/approval of those standards from a government agency, some permittees may not have an incentive to follow the standards.  Without an inclusive process to develop standards, third parties may not adequately represent the public interest.

**d. If a Third Party Performs this Function, Should it Receive Formal Delegation of Authority?** If standard development is delegated, it probably makes sense to formally delegate authority for this function. That delegation should clearly articulate an agency's role in approving standards, and what level of clarification can be provided by a third party without a formal approval from an agency.

In **Appendix 1**, see **Example 1** (*Congressional delegation of management, monitoring, enforcement & standard development authority to the Columbia River Gorge National Scenic Area Commission*); **Example 3** (*North American Electric Reliability Corporation (NERC) delegation to the Western Electricity Coordinating Council (WECC) to develop reliability standards, and to monitor/enforce*); and **Example 5** (*Indiana, Kentucky and Ohio, and Ohio River Valley Water Sanitation Commission (ORSANCO) delegation of authority to the Electric Power Research Institute (EPRI) to develop standards*); and **Example 7** (*EPA delegation to ASTM of "All Appropriate Inquiry" standard development for hazardous waste pre-purchase assessment requirements*).